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Review Article

**SCHIZOPHRENIA – A MENTAL DISORDER WHICH MAKES  
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**Abstract:**

*Schizophrenia is a mental disorder characterized by abnormal social behavior and failure to recognize what is real. Common symptoms include false beliefs, unclear or confused thinking, hearing voices, reduced social engagement and emotional expression, and a lack of motivation. People often have additional mental health problems such as major depression, anxiety disorders, or substance use disorder. Symptoms typically come on gradually, begin in young adulthood, and last a long time. The cause of schizophrenia is believed to be a combination of genetic and environmental factors. During diagnosis a person's culture must also be taken into account. As of 2013 there is no objective test. Schizophrenia does not imply a "split personality" or "multiple personality disorder" — a condition with which it is often confused in public perception.*

*The mainstay of treatment is antipsychotic medication along with counseling, job training, and social rehabilitation. It is unclear if typical or atypical antipsychotics are better. In those who do not improve with other antipsychotics, clozapine may be used. In more serious cases—where there is risk to self or others—involuntary hospitalization may be necessary, although hospital stays are now shorter and less frequent than they once were.*

*About 0.3–0.7% of people are affected by schizophrenia during their lifetime. In 2013 there was estimated to be 23.6 million cases globally. Males are more often affected than females. About 20% of people do well and a few recover completely. Social problems, such as long-term unemployment, poverty, and homelessness are common. The average life expectancy of people with the disorder is ten to twenty five years less than the average. This is the result of increased physical health problems and a higher suicide rate (about 5%). In 2013 an estimated 16,000 people died from behavior related-to or caused by schizophrenia.*

**Key words:** Schizophrenia, Neurotransmitters, Genetics.

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**INTRODUCTION:**

Schizophrenia is a severe mental disorder, characterized by profound disruptions in thinking, affecting language, perception, and the sense of self. It often includes psychotic experiences, such as hearing voices or delusions. It can impair functioning through the loss of an acquired capability to earn a livelihood, or the disruption of studies. Schizophrenia typically begins in late adolescence or early adulthood. There are effective treatments for schizophrenia and people affected by it can lead a productive life and be integrated in society [1].

**EPIDEMIOLOGY:**

Worldwide, the prevalence of schizophrenia is about 1%. The rate is comparable among men and women and relatively constant cross-culturally. The rate is higher among lower socioeconomic classes in urban areas, perhaps because its disabling effects lead to unemployment and poverty. Similarly, a higher prevalence among single people may reflect the effect of illness or illness precursors on social functioning. The average age at onset is early to mid 20s in women and somewhat earlier in men; about 40% of males have their first episode before age 20. Onset is rare in childhood, but early-adolescent onset or late-life onset (when it is sometimes called paraphrenia) may occur.

**AETIOLOGY [2-5]:**

The exact causes of schizophrenia are unknown, but research suggests that a combination of physical, genetic, psychological and environmental factors can make people more likely to develop the condition.

**GENETICS:**

Schizophrenia tends to run in families, but no one gene is thought to be responsible. It's more likely that different combinations of genes make people more vulnerable to the condition. However, having these genes doesn't necessarily mean you will develop schizophrenia. Evidence the disorder is partly inherited comes from studies of twins. Identical twins share the same genes. In identical twins, if one twin develops schizophrenia, the other twin has a one in two chance of developing it too. This is true even if they are raised separately.

In non-identical twins, who have different genetic make-ups, when one twin develops schizophrenia, the other only has a one in seven chance of developing the condition. While this is higher than in the general population (where the chance is about 1 in a 100), it suggests genes are not the only factor influencing the development of schizophrenia.

**BRAIN DEVELOPMENT:**

Studies of people with schizophrenia have shown there are subtle differences in the structure of their brains. These changes aren't seen in everyone with schizophrenia and can occur in people who don't have a mental illness. But they suggest schizophrenia may partly be a disorder of the brain.

**NEUROTRANSMITTERS:**

These are chemicals that carry messages between brain cells. There is a connection between neurotransmitters and schizophrenia because drugs that alter the levels of neurotransmitters in the brain are known to relieve some of the symptoms of schizophrenia. Research suggests schizophrenia may be caused by a change in the level of two neurotransmitters: dopamine and serotonin. Some studies indicate an imbalance between the two may be the basis of the problem. Others have found a change in the body's sensitivity to the neurotransmitters is part of the cause of schizophrenia.

**PREGNANCY AND BIRTH COMPLICATIONS:**

Research has shown that people who develop schizophrenia are more likely to have experienced complications before and during their birth, such as a low birth weight, premature labour, or a lack of oxygen (asphyxia) during birth. It may be that these things have a subtle effect on brain development.

**STRESS:**

The main psychological triggers of schizophrenia are stressful life events, such as bereavement, losing your job or home, a divorce or the end of a relationship, or physical, sexual, emotional or racial abuse. These kinds of experiences, though stressful, do not cause schizophrenia, but can trigger its development in someone already vulnerable to it.

**DRUG ABUSE:**

Drugs do not directly cause schizophrenia, but studies have shown drug misuse increases the risk of developing schizophrenia or a similar illness. Certain drugs, particularly cannabis, cocaine, LSD or amphetamines, may trigger symptoms of schizophrenia in people who are susceptible. Using amphetamines or cocaine can lead to psychosis and can cause a relapse in people recovering from an earlier episode.

Three major studies have shown teenagers under 15 who use cannabis regularly, especially "skunk" and other more potent forms of the drug, are up to four

times more likely to develop schizophrenia by the age of 26.

#### ENVIRONMENT:

Environmental factors associated with the development of schizophrenia include the living environment, drug use and prenatal stressors. Parenting style seems to have no major effect, although people with supportive parents do better than those with critical or hostile parents. Childhood trauma, separation from ones families, and being bullied or abused increases the risk of psychosis. Living in an urban environment during childhood or as an adult has consistently been found to increase the risk of schizophrenia by a factor of two, even after taking into account drug use, ethnic group, and size of social group. Other factors that play an important role include social isolation and immigration related to social adversity, racial discrimination, family dysfunction, unemployment, and poor housing conditions.

Research points to several stress-inducing environmental factors that may be involved in schizophrenia, including:

- Prenatal exposure to a viral infection
- Low oxygen levels during birth (from prolonged labor or premature birth)
- Exposure to a virus during infancy
- Early parental loss or separation
- Physical or sexual abuse in childhood

#### DEVELOPMENTAL FACTORS:

Factors such as hypoxia and infection, or stress and malnutrition in the mother during fetal development, may result in a slight increase in the risk of schizophrenia later in life. People diagnosed with schizophrenia are more likely to have been born in winter or spring (at least in the northern hemisphere), which may be a result of increased rates of viral exposures in utero. The increased risk is about 5 to 8%.

#### DIFFERENT TYPES OF SCHIZOPHRENIA: [6-9]

- **Paranoid schizophrenia** -- a person feels extremely suspicious, persecuted, or grandiose, or experiences a combination of these emotions.
- **Disorganized schizophrenia** -- a person is often incoherent in speech and thought, but may not have delusions.
- **Catatonic schizophrenia** -- a person is withdrawn, mute, negative and often assumes very unusual body positions.

- **Residual schizophrenia** -- a person is no longer experiencing delusions or hallucinations, but has no motivation or interest in life.
- **Schizoaffective disorder**--a person has symptoms of both schizophrenia and a major mood disorder such as depression.

#### SYMPTOMS

- Positive symptoms
- Negative symptoms
- Disorganized symptoms
- Cognitive symptoms

#### POSITIVE SYMPTOMS:

- Delusions (often paranoid in nature)- are erroneous beliefs that are maintained despite clear contradictory evidence.
- Auditory Hallucinations- usually in the form of voices which are often exhortatory in their message
- Thought disorders with irretational conclusions
- Abnormal behaviour- garbled sentences and stereotyped movements and occasionally aggressive behaviours.

#### NEGATIVE SYMPTOMS:

- Introvert Behaviour
- Withdrawal from social contacts
- Flattening of emotional responses
- Lack of motivation

#### DISORGANIZED SYMPTOMS: [10]

*Speech:* Fragmented thinking is characteristic of schizophrenia. Externally, it can be observed in the way a person speaks. People with schizophrenia tend to have trouble concentrating and maintaining a train of thought. They may respond to queries with an unrelated answer, start sentences with one topic and end somewhere completely different, speak incoherently, or say illogical things.

Common signs of disorganized speech in schizophrenia include:

- **Loose associations** – Rapidly shifting from topic to topic, with no connection between one thought and the next.
- **Neologisms** – Made-up words or phrases that only have meaning to the patient.
- **Perseveration** – Repetition of words and statements; saying the same thing over and over.

- **Clang** – Meaningless use of rhyming words (“I said the bread and read the shed and fed Ned at the head”).

#### BEHAVIOUR:

Schizophrenia disrupts goal-directed activity, causing impairments in a person’s ability to take care of him or herself, work, and interact with others.

Disorganized behavior appears as:

- A decline in overall daily functioning
- Unpredictable or inappropriate emotional responses
- Behaviors that appear bizarre and have no purpose
- Lack of inhibition and impulse control

**Pathogenesis:** It is unclear but it involves the combination of genetic and abnormalities in amine neuro transmitter functions.

#### GENETIC PREDISPOSITION:

- Genetic studies have provided some evidence that inheritance can account for at least some proportion of schizophrenic disorders.
- In first degree relatives, the risk is about 10%
- In monozygotic twins the probability of the other being affected is 50% and in dizygotic twins it is about 10%
- Molecular genetic studies have been reported the linkage of schizophrenia to loci on chromosomes 1, 5, 6,8,11 and 22 but not yet to any specific genes.
- Recently one gene which encodes for neuregulin-1 has been reported to be associated with schizophrenia

#### DIAGNOSIS: [11]

A diagnosis of schizophrenia is made based on a full psychiatric evaluation, medical history, physical exam, and lab tests.

**Medical history and exam** – Your doctor will ask about your personal and family health history. He or she will also perform a complete physical examination to check for medical issues that could be causing or contributing to the problem.

**Tests and screenings:** There are no specific laboratory tests that can diagnose Schizophrenia. These may include a lab test called a complete blood count (CBC), other blood tests that may help rule out conditions with similar symptoms, and screening for

alcohol and drugs. The doctor may also request brain-imaging studies, such as an MRI or CT scan, in order to look for brain abnormalities associated with schizophrenia.

**Psychological evaluation.** A doctor or mental health provider will check mental status by observing appearance and demeanor and asking about thoughts, moods, delusions, hallucinations, substance abuse, and potential for violence or suicide.

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